

INTERNATIONAL JOURNAL OF AGRICULTURE, MANAGEMENT AND TECHNOLOGY



Vol 7(1) 2023

Published by
Federal College of Agriculture,
Ishiagu Ebonyi State

EFFECTS OF COVID-19 PANDEMIC ON POULTRY FEED MARKETING IN IBADAN SOUTH-WEST LOCAL GOVERNMENT AREA, OYO STATE

EMIKO, M¹, NWALI, C. S^{2*} and IKUEJAWA, I. I²

¹Delta State Local Government Service Commission, Warri South Local Government, Nigeria

²Department of Agribusiness and Management, Federal College of Agriculture Moor Plantation, Ibadan, Oyo state, Nigeria

Corresponding authors Email: sunccollins@yahoo.com

ABSTRACT

The study determined the effect of COVID-19 pandemic on poultry feed marketing in Ibadan South West Local Government Area of Oyo state. Two stage sampling technique was use to select 60 respondents for this study. Descriptive statistics such as frequency, percentage and mean were used to analyze the objective i, ii, iii, iv, vi and vii, gross margin was used to analyzed objective v while inferential statistics such as regression was used to realize the hypothesis. The results revealed that most (65.0%) of the respondents were female, 36.6% of the respondents were between the age of 25-30 years with above average (57.6%) single, 35.0% had secondary education, majority (81.7%) had 1-5 households, majority (90.0%) had 1-5 years of experience, above average (58.0%) were artisan, majority (75.0%) were not member of cooperative society, 81.7% had no access to extension services, 36.7% earn ₦30,001 – 40,000 monthly. The results further showed that television (96.7%) was the major sources of information to COVID-19 pandemic for them, broiler mash and layer mash (93.3%) were the major types of poultry feed available for sales in the study area. Wearing of face mask, avoiding large gatherings / long queues and washing of hands with water and soap (100.0%) were the major COVID-19 preventive measures used among the respondents. poultry feed marketing before COVID-19 pandemic was profitable with the gross margin of ₦205, 311 while during COVID-19 pandemic, it was profitable with the gross margin of ₦1, 374,420. Increase in the prices of transportation (mean=2.95) was the negative effect of COVID-19 pandemic on feed marketers. The results of the hypothesis revealed that socio economic characteristics of the respondents have effect on profitability of poultry feed marketing during COVID-19 in the study area. The T-test analysis indicated that profits before COVID-19 (0.000) and during COVID-19 (0.000) were significantly different from each other. From the findings it is recommended that government should roll out palliative to the transporters by giving them grant to cushion the effect of COVID-19 on them as this may reduce the cost of transportation. Also, feed producers should write the government agency in charge of feed raw materials in subsidizing the cost of feed ingredient which will reduce their cost of production and sell at cheaper price for the feed marketers as this will increases the marketer's profit.

Key Words: COVID-19 pandemic, poultry feed, marketing, profit

1.1 INTRODUCTION

The current wave of Coronavirus, COVID-19 pandemic has really distressed the world causing public health hazards. In Nigeria, its economic implication is very high as a result of the lock down rule. The livestock sector which, is the major source of protein supply to the masses suffered high level of distress ranging from lack of inputs, high cost of inputs and lack of market access for producers due to lockdown. The World Health Organization (WHO) announced the outbreak of a new Coronavirus (SARSCoV-2) at the beginning of the year 2020 (Adhikari *et al.*, 2020). According to WHO, the disease was first reported in the city of Wuhan, China, in December 2019 (Adhikari *et al.*, 2020). The disease has continued to spread to over 190 countries (Congressional Research Service., 2020). Although the Covid-19 disease broke out in China,

the first confirmed case of COVID-19 in Nigeria was detected in a traveler who arrived in Lagos from Europe on February 27, 2020 (NCDCa, 2020). Symptoms of Covid-19 infection include; fever, dry cough, shortness of breath or difficulty in breathing, muscle aches, headache, sore throat, or diarrhoea, runny nose and tiredness (NCDC, 2020b).

There is no medical curative procedure for covid-19 yet, however, preventive measures to stop its spread include; alcohol-based sanitizer frequently; maintaining social distance of not less than 2 meters; using face masks; avoiding facial contact with an infected person; not touching your face; coughing into your elbow; staying at home if you can; seeking medical care early in febrile condition, cough, and difficulty in breathing; throwing used tissues in the trash; cleaning and disinfecting frequently touched surfaces; staying informed; and following advice

given by a health-care provider, Nigeria was affected by the Corona virus pandemic which has greatly affect poultry section (NCDC, 2020b).

Poultry feed is a poultry input and its demand is derived from the demand for the poultry and/or its products. An increasing population growth, rapid urbanization and higher revenues is the reason why demand for feed is being driven (Abdullah *et al.*, 2011). According to Munyori *et al.* (2014) animal feed supply is unpredictable as a result of seasonal feed supply and its causes are inefficient marketing, poor availability and poor quality of raw materials, the methods used for processing, conditions for handling and storage. Top feeds, livestock feed, Rainbow feeds, Guinea feeds, Animal Care feeds and Vital Feeds are the dominating trading names in the Nigerian market. In the poultry industry there are three kinds of feed mills: custom, toll and integrated farms. The custom miller markets its feed with registered trade names.

The amounts of poultry feed sold and income produced decreased with increased transport costs, due to the COVID-19 pandemic according to Achoja, Okoh, and Ofuoku (2006). As marketers spend more transport money, their capital falls and their buying power/capacity decreases and the marketing input's share in production is reduced. According to Ayodamola (2009), farmers have complained that the amount they spend on feed has continued to rise regularly, if there is an increase in the price of maize, soybean cake, groundnut cake or other ingredients used in feed manufacturing. Some of the time, the purchasing price of feed from the mills was so high that farmers want to get out of business. Some farmers are now seeking alternative means of feeding their birds while others are leaving the company (Ayodamola, 2009). Based on the above,

The broad objective of the study is to determine the effect of COVID-19 pandemic on the poultry feed marketing in the study area. Specifically to:

- i. described the socio economic characteristics of the poultry feed marketers in the study area;
- ii. identify the sources of information on COVID-19 pandemic among the respondents in the study area;
- iii. determine the COVID-19 preventive measures used among the respondents in the study area;
- iv. identify the types of poultry feed available for sales in the study area;
- v. examine profit differences from feed marketing before and during the COVID-19 pandemic;
- vi. examine the effects of COVID-19 on the poultry feed marketing;

1.2 Hypotheses of the study

Ho1: There is no significant effect of COVID-19 on the profit before and during COVID-19 pandemic in the study area

Ho2: There is no significant difference between the profits before and during COVID-19 pandemic.

2.0 METHODOLOGY

2.1 Description of the study area

Ibadan South West Local Government Area was carved out of the defunct Ibadan Municipal Government (IMG) in 1991. The Administrative Headquarter is located at Oluyole Estate. It covers a landmass of 133,500 square kilometres with a population density of 2,401 persons per square kilometre. The 2010 estimated population for the area was projected 320,536 people, using a growth rate of 3.2% from 2006 census. The Local Government Area is bounded by Ibadan North West and Ido Local Government Areas to the north, Oluyole Local Government in the south, Ido Local Government Area in west and Ibadan North and South East in the east. There are no serious farming activities in the area being an urban centre. Most of the agricultural products planted outside the area are being processed in the Local Government Area. Few organized companies and farms such as Zartech, Bronze, Avians, Ajanla Farms practice poultry.

The Local Government Area is a home to small, medium and large scale industries. Many large scale industries are located in the Oluyole Estate, Ibadan. Among them are Yale Foods Nigerian Limited, Caps Feed Nigerian Limited, Niger Hygiene, 7up Bottling Company. Etc. Others that are located in various parts of the Local Government Area include Sumal Foods Nigerian Limited, Ring Road; Vital Foods Nigerian Limited, Ring Road; Fuman, Apata; NNPC; Apata; Jitalex, Odo Ona' Vitamal NigerianPlc, Lagos Bye pass Oke Ado etc. The Local Government Area is dominated by the Yoruba's and other tribes who engaged in different types of economic activities. Ibadan South West Local Government Area is subdivided into 12 wards

2.2 Study Population.

The study population consists of poultry feed marketers in Ibadan South West Local Government area of Oyo state.

2.3 Sampling procedure and sampling size

Multi stage sampling techniques was used for this study. In the first stage Ibadan South West Local Government was purposively selected due to the predominance of poultry feed marketers in the area. In the second stage six (6) areas were randomly selected and the areas are where poultry feed marketers are predominant which include; Odo Ona, Apata, Ring Road, BCGA, Oluyole and Fatimah. In the third stage ten (10) poultry feed marketers were randomly selected from each of the

selected areas to give a total number of sixty (60) respondents.

2.4 Data Collection

Primary data were collected with the use of a structured Questionnaire.

2.5 Statistical tools for Data Analysis

Data was analyzed using both descriptive and inferential statistics. Objective 1,2,3, and 6 were analyzed with descriptive statistics while Objective 5 was measured using gross margin analysis and the hypothesis was analyzed using regression.

2.5.1 Regression Model specification

The empirical model for the ordinary least square multiple regression specified as follows:
 $C = f(x_1, x_2, x_3, x_4, x_6, \dots)$ implicit form (1)

$$C = B_0 + B_1 X_1 + B_2 X_2 + B_3 X_3 + B_4 X_4 + B_5 X_5 + B_6 X_6 + B_7 X_7 + \mu \text{ explicit form } \dots \dots \dots (2)$$

Where

C = Profit of feed marketing during COVID-19 (N)

- X_1 = Age of the farmers (in years);
- X_2 = Sex (1= male, 2= female)
- X_3 = Marital status (married=1, single=2, divorced=3, widowed=4)
- X_4 = Educational level (Adult education=1, primary education=2, secondary education=3, Tertiary education=4)
- X_5 = Secondary occupation (Farming=1, Trading=2, Civil servant=3)
- X_6 = feed marketing experience (Years)
- X_8 = Income (Naira)
- μ = Error term

2.5.2 Profitability

The dependent variable profit made from poultry feed marketing during COVID-19 pandemic was measured using gross margin analysis

$$GM = TR - TMVC \dots \dots \dots (1)$$

- Where GM = Gross Margin
- TR = Total Revenue
- TMVC = Total Marketing Variable Cost

2.5.3 T-Test Model

The formula for computing the t-value and degrees of freedom for a paired t-test is:

$$t = \frac{\bar{x}_A - \bar{x}_B}{\sqrt{S^2(n_a + n_b)}} \dots \dots \dots$$

- \bar{x}_A, \bar{x}_B , = means of group A and B
- N_A, n_B = no of observation in group A and B
- S^2 = Pooled variance with group variance

3. RESULTS AND DISCUSSION

3.1 Socio economic characteristics of the respondents

Table 1 shows that most (65.0%) of the respondents were female, while 35.0% of the

respondents were male. This implies that most of the respondent in the study area were female. This implies that female dominated the poultry feed sector in the study area than their counterpart and this might be due to the fact women mostly involved in marketing agricultural produced. Table 1 shows that 36.6% of the respondents were between the age of 25-30 years, 28.4% of the respondents were between the age of 31-35 years, 21.7% of the respondents were between the age of 19-24 years, 6.7% of the respondents were between the age of 36-40, while 6.7% of the respondents were above 41 years of age. The mean age is 29 years. This implies that respondents in the study area were youth who are capable and have strength to carry out the rigorous activities associated with feed marketing. This support the findings of Abdullah *et al.*, (2011) who reported average age of 40 years for feed marketers. Table I shows that above average (57.6%) of the respondents were single, while 43.3% of the respondents were married. This implies that above average of the respondents were single, this may be due to the fact that the respondent were young. This contradict the work of Eze *et al.* (2010) who reported that in Oyo state married women constituted the majority of agricultural produce marketers. Table 1 shows that 35.0% of the respondents had secondary education, 30.0% of the respondents had tertiary education, 26.7% of the respondents had primary education, while 8.3% of the respondents had no formal education. This implies that the respondents in the study area were literate and this will help the marketers to adopt the preventive measure to prevent covid-19 which will enable them to participate in feed marketing which may maximize their profit. Table 1 shows that majority (81.7%) of the respondents had 1-5 households, while 18.3% of the respondents had 6-10 household size. The mean household is 4 which implies that the respondent in the study area had little household. The results are similar to that of Adhikari *et al.*, (2010) who had average 5 persons per household in Nigeria. Table 1 shows that majority (90.0%) of the respondents had 1-5 years of experience, while 10.0% of the respondents had 6-10 years of experience. The mean is 3 years. This implies that majority of the respondent in the study area had little years of experience. Ali (2011) asserted that marketing experience is important in determining the level of profitability obtained by a marketer. The findings support Adhikari *et al.*, (2010) that farmers with more experience would be more efficient i.e have better knowledge and thus expected to run a more efficient and profitable enterprise. Table 1 shows that above average (58.0%) of the respondents

were artisan, 28.3% of the respondents were farmer, while 13.3% of the respondents were traders. This implies that most of the respondents in the study area had secondary occupation. This implies that majority of the respondents had trading as their secondary occupation and this is an indication respondents have another sources of income to finance their poultry feed. Table 1 shows that majority (75.0%) of the respondents were not member of cooperative society, while 25.0% of the respondent were member of cooperative society. This implies that majority of the respondents in the study area were not member of cooperative society which may hinder the access to loan and information. Table 1 shows that majority (81.7%) of the respondents have no access to

extension services, while 18.3% of the respondents have access to extension services. This implies that majority of the respondents in the study area have no access to extension services which may hindered them in having access to new innovation on feed marketing. Table 1 shows that above average (36.7%) of the respondents earn ₦30,001 – 40,000 monthly, 21.7% of the respondents earns ₦40,001-50,000 monthly, 18.3% of the respondents earn ₦20,000-30,000 monthly, 13.3% of the respondents earn ₦50,001-60,000 monthly, while 10.0% of the respondents earn above ₦60,001 monthly. This implies that the respondents in the study area were low income earners.

Table 1: Socio economic characteristics of the respondents

Variable	Frequency	Percentage	Mean
Sex			
Male	21	35.0	
Female	39	65.0	
Age			
19-24	13	21.7	
25-30	22	36.6	
31-35	17	28.4	29years
36-40	4	6.7	
41 and above	4	6.7	
Marital status			
married	26	43.3	
Single	34	57.6	
Educational status			
Primary	16	26.7	
Secondary	21	35.0	
Tertiary	18	30.0	
No education	5	8.3	
Household size			
1-5	49	81.7	4persons
6-10	11	18.3	
Feed marketing experience			
1-5	54	90.0	
6-10	6	10.0	3years
Secondary occupation			
Farming	17	28.3	
Trading	8	13.3	
Artisan	35	58.3	
Member of any cooperative society			
Yes	15	25.0	
No	45	75.0	
Access to extension services			
Yes	11	18.3	
No	49	81.7	
Monthly income			
₦20,000-30,000	11	18.3	
₦30,001-40,000	22	36.7	₦38,345
₦40,001-50,000	13	21.7	
₦50,001-60,000	8	13.3	
₦60,001 and above	6	10.0	

Source: Field survey, 2022

3.2 Sources of information on COVID-19 pandemic

Result in Table 2 shows the sources of information on COVID-19 pandemic among poultry feed marketers. Results revealed that television (96.7%) was the major sources of information to COVID-19 pandemic among the respondents in the study area, closely followed by radio (95.0%), newspapers and magazine (95.0%), fellow feed marketers (88.3%), family and friends (83.3%), friends and neighbours (83.3%), Nigeria Center for disease control (81.7%), religion body (80.0%) and Federal ministry of health (58.3%). Furthermore, ministry of Agriculture (43.3%), internet (33.3%), Bulleting and posters(33.3%), and Extension Agent (13.3%) were the least sources of information on COVID-19 pandemic.

This implies that majority of respondents sources of information on COVID-19 pandemic were television, radio, news papers and magazine, fellow feed marketers, family and friends, friends and neighbours, Nigeria Center for disease control, religion body and Federal ministry of health this might be due to the fact that respondents in the study area have easy access to television and radio, more so they also got information from their immediate environment. Little or no information on COVID-19 were gotten from ministry of Agriculture, internet, Bulleting and posters, and Extension Agent. Adhikari *et al.*, (2010) reported that radio has the power to promote citizen's resilience during periods of health crisis. Radio has the potential to influence opinions, change behavior and accurately inform the public about COVID-19

Table 2: Sources of information on COVID-19 pandemic

Sources of Information	Yes	No
Bulleting and posters	20(33.3)	40(66.7)
Radio	57(95.0)	3(5.0)
Federal ministry of heath	35(58.3)	25(41.7)
Family and friends	50(83.3)	10(16.7)
Religion bodies	48(80.0)	12(20.0)
Television	58(96.7)	2(3.3)
Nigeria Center for Disease Control (NCDC)	49(81.7)	11(18.3)
Extension Agent	8(13.3)	52(86.7)
Fellow feed marketers	53(88.3)	7(11.7)
Friends and Neighbors	50(83.3)	10(16.7)
Internet	20(33.3)	40(66.7)
Ministry of agriculture	26(43.3)	34(56.7)
Newspaper and Magazine	57(95.0)	3(5.0)

Source: Field survey, 2022

multiple responses

Figures in parenthesis are in percentage

3.3 COVID-19 preventive measures used among the respondents

Result in Table 3 reveals the COVID-19 preventive measures used among the respondents. Results revealed that wearing of face mask, Avoiding large gatherings / long queue and Washed hands with water and soap (100.0%) was the major COVID-19 preventive measures used among the respondents. Others include; use of hand sanitizers / disinfectants and Avoided touching my face (98.3%), Avoided shaking hands (95.0), Avoided visits to/from close friends/relatives (58.3%) and Avoided public transportation (55.0%). Also, Wore disposable gloves (43.3%) were the least COVID-19 preventive measures used among the respondents.

This implies that most of the respondents prevent themselves from COVID-19 by wearing of face mask, Avoided large gatherings / long queue and Washed hands with water and soap,

used hand sanitizers / disinfectants and Avoided touching my face, Avoided shaking hands, Avoided visits to/from close friends/relatives and Avoided public transportation this may be due to the fact government enforced the non-pharmaceutical preventive measure to the general populace as Nigeria Center for Diseases Control reported COVID-19 as deadly virus which can transmit from one person to another through sneezing, shaking of hands and large gathering. This result corroborates the findings of Nigeria Center for Diseases Control, (2020) reported that preventive measures such as lockdown, social distancing, self-isolation or self-quarantine and observation of simple hygiene habits such as regular washing of hands, wearing of facemasks and covering the mouth with a handkerchief when coughing or sneezing have been recommended to contain the spread of the disease among people.

Table 3: COVID-19 preventive measures used among the respondents

COVID-19 preventive measures	Yes	No
Avoided visits to/from close friends/relatives	35(58.3)	25(41.7)
Wore disposable gloves	26(43.3)	34(56.7)
Wore face masks	60(100.0)	0(0.0)
Used hand sanitizers / disinfectants	59(98.3)	1(1.7)
Avoided touching my face	59(98.3)	1(1.7)
Avoided shaking hands	57(95.0)	3(5.0)
Avoided public transportation	33(55.0)	27(45.0)
Avoided large gatherings / long queue	60(100.0)	0(0.0)
Washed hands with water and soap	60(100.0)	0(0.0)
Cleaning of farm implement always	50(83.3)	10(16.7)

Source: Field survey, 2022

multiple response

Figures in parenthesis are in percentage

3.4 Types of poultry feed available for sales

Table 3 shows the Types of poultry feed available for sales in the study area. The results shows that broiler mash and layer mash (93.3%) were the major Types of poultry feed available for sales in the study area, closely followed by

grower mash (91.7%), chicks feed (81.7%), turkey mash (80.0%) and local feed (53.3%). This implies that broiler mash and layer mash, grower mash, chicks feed, turkey mash and local feed were the major Types of poultry feed available for sales in the study area.

Table 4: Types of poultry feed available for sales

Types of poultry feed	Yes	No
Growers mash	55(91.7)	5(8.3)
Broiler mash	56(93.3)	4(6.7)
Layer mash	56(93.3)	4(6.7)
Chicks feed	49(81.7)	11(18.3)
Turkey mash	48(80.0)	12(20.0)
Local feed	32(53.3)	28(46.7)

Source: Field survey, 2022

multiple responses

3.5 Profitability of poultry feed marketing before COVID-19 pandemic

Table 5 shows the total marketing variable cost incurred and total returns of the respondents in the marketing of poultry feed marketing before COVID-19 pandemic. The table indicates that ₦2, 373, 610 was total marketing variable cost of poultry feed while ₦2, 578,921 was obtained as revenue (which was quantity of poultry feed

sold multiplied by price per bag). The profit made before covid-19 by the respondent was ₦205, 311
 $GM = TR - TMVC$
 $TR = ₦2, 578,921$
 $GM = ₦2, 373, 610 - ₦2, 578,921 = ₦205, 311$
 Since gross margin (₦205, 311) is positive, therefore poultry feed marketing before covid-19 in the study area is profitable

Table 5: Profitability of poultry feed before COVID-19 pandemic

Variable	Average Cost/feed per month
Quantity of feed bought	713
Price of feed bought per (25kg)	3,280
Market charge	4,520
Cost of renting shop	10,758
Cost of transport	19,692
Total Variable cost	₦2, 373, 610
Revenue	
Quantity of feed sold (25kg)	713
Price of feed sold per (25kg)	3,617
Total revenue	2,578,921
Gross margin	₦ 205,311

Source: Field survey, 2022

3.6 Profitability of poultry feed marketing during COVID-19 pandemic

Table 6 shows the total marketing variable cost incurred and total returns of the respondents in

the marketing of poultry feed marketing during COVID-19 pandemic. The table indicates that ₦3, 874, 389 was total marketing variable cost of poultry feed while ₦5,248,809 was obtained as revenue (which was quantity of poultry feed sold during covid-19 multiplied by price per bag). The profit made by the respondent was ₦1,374,420

$$GM = TR - TMVC$$

$$TR = ₦5,248,809$$

$$GM = ₦5,248,809 - ₦3, 874, 389 = ₦1,374,420$$

Since gross margin (₦1,374,420) is positive, therefore poultry feed marketing during covid-19 in the study area is profitable.

Table 6: Profitability of poultry feed during COVID-19 pandemic

Variable	Average Cost/feed per month
Quantity of feed bought	643
Price of feed bought per (25kg)	5,948
Market charge	7,441
Cost of renting shop	9,368
Cost of transport	33,016
Total Variable cost	₦3, 874, 389
Revenue	
Quaintly of feed sold (25kg)	643
Price of feed sold per (25kg)	8,163
Total revenue	5, 248, 809
Gross margin	₦ 1, 374, 420

Source: Field survey, 2022

3.7 Effect of COVID-19 pandemic on feed marketing

Result in Table 7 showed the effect of COVID-19 pandemic on feed marketing. Result revealed that increase in the prices of transportation (mean=2.95) had the highest mean and was ranked first as the effect of COVID-19 pandemic on feed sector. Closely followed by high level of poverty (mean=2.63), high price charged by labour (mean=2.63), Reduction in income due to low sales from feed (mean=2.63) and Hike in price of feed due to COVID-19 (mean=2.57) were ranked second and fifth respectively. Moreover, Low patronage from customer (mean=2.20) and Increase in the prices of market due (mean=2.15).

This implies that Increase in the prices of transportation, high level of poverty, high price charged by labour, reduction in income due to low sales from feed and hike in price of feed due to COVID-19 were the negative effect of COVID-19 pandemic on feed sector. COVID-19 seriously affected all the sectors of poultry. This results support the findings of Adhikari *et al.*, (2010) who reported that transport service providers and commercial transport operators, profit maximization even if fewer passengers are allowed to board fleets is placed at the forefront of their transport participation motives in the time of COVID-19 which had led to increase in price of transportation which contribute to increase in poultry feed marketers input

Table 7: Effect of COVID-19 pandemic on feed marketing

Effect of COVID-19 pandemic on feed marketing	High effect	Low effect	No effect	Mean	Rank
Hike in price of feed due to COVID-19	52(86.7)	8(13.3)	0(0.0)	2.87	1
Increase in the prices of market due	41(68.3)	16(26.7)	3(5.0)	2.63	4
Low patronage from customer	44(73.3)	13(21.7)	3(5.0)	2.68	2
Increase in the prices of transportation	35(58.3)	21(35.0)	4(6.7)	2.51	7
High level of poverty	28(46.7)	27(45.0)	5(8.3)	2.38	9
High price charged by labour	26(43.3)	25(41.7)	9(15.0)	2.28	10
Purchased of less quantity of feed	38(63.3)	22(36.7)	0(0.0)	2.63	4
Reduction in Accepted growth weight of birds due to high cost of feed	44(73.3)	12(20.0)	4(6.7)	2.67	3
Covid-19 pandemic poses a serious Accepted Threat to our health	38(63.3)	22(36.7)	0(0.0)	2.63	4

Reduction in income due to low sales from feed	34(56.7)	20(33.3)	0(0.0)	2.47	8
--	----------	----------	--------	------	---

Source: Field survey, 2022

Figures in parenthesis are in percentage

3.8 Regression analysis showing relationship between the socio economic characteristics of the respondents and the profitability of poultry feed marketing during COVID-19 in the study area

Table 9 showed that age Marital status (p=0.581), Educational status (p=0.000), Household size (p=0.676), Feed marketing experience (p=0.594), Secondary occupation(p=0.166), Member of cooperative society(p=0.312), Access to extension services(p=0.663), of the poultry feed marketers had positive coefficient value which have direct positive influence on the profitability of poultry feed marketing during COVID-19 while Monthly income of poultry feed marketers had negative coefficient implying that there is an inverse effect on the

profitability of poultry feed marketing during COVID-19 and show no significant difference (p=0.063) on the profitability of poultry feed marketing during COVID-19. .

The adjuster R² was 0.546 indicating that 54.6% of the profitability of poultry feed marketing during COVID-19 was explained by the influence of the socio economic characteristics in the regression model. Since the p-value (0.001) <0.05. Therefore, the null hypothesis was rejected while the alternative was accepted meaning that socio economic characteristics of the respondents have effect on profitability of poultry feed marketing during COVID-19 in the study area.

Table 9: Regression analysis showing relationship between the socio economic characteristics of the respondents and the profitability of poultry feed marketing during COVID-19 in the study area

Variables	Coefficient value	Std. Error	t-value	Significant	Decision
(Constant)	-3.336E6	2.218E6	-1.504	0.139	
Age	97034.011	44191.507	2.196	0.033	Significant
Marital status	1.609E6	428778.815	3.753	0.000	Significant
Educational status	323815.836	204419.012	1.584	0.120	Not Significant
Size of household	43279.172	102883.356	0.421	0.676	Significant
Main occupation	-315139.856	157684.827	-1.999	0.051	Not Significant
Feed marketing experience	93036.182	173519.578	0.536	0.594	Not Significant
Secondary occupation	233841.657	166406.623	1.405	0.166	Not Significant
member of any cooperative society	745086.895	728673.958	1.023	0.312	Not Significant
Access to extension services	365671.164	834064.100	0.438	0.663	Not Significant
Monthly income	-25.096	13.187	-1.903	0.063	Not Significant
Adjusted R2	0.546				
F-value	3.724				
P-value	0.001				

Source: Field survey, 2022

Table 5: T-test analysis showing the profit comparison of feed marketing before and during COVID-19

The T-test analysis indicated profit during COVID-19 (0.000) and profit before COVID-19

(0.000) were significantly different from each other; this implies that there is significant difference between the profit of feed marketing before and during COVID-19 in the study area

Table 5: T-test analysis showing the profit comparison of feed marketing before and during COVID-19

Variable	T	Df	Significant	Decision
Gross margin During COVID-19	10.504	3	0.000	Significant
Gross margin before COVID-19	8.496	3	0.000	Significant

Source: Field survey, 2022

4.0 CONCLUSION AND RECOMMENDATIONS

4.1 Conclusion

From the findings of this study it is concluded that majority of the respondents are educated married female, they have 4 persons in their household, most of them have 3 years of marketing experience and earned ₦38,345 per month on marketing of feed. It is also concluded that their major sources of information on covid-19 are through the television, radio, newspapers and magazine and fellow feed marketers. Furthermore it is concluded that broiler mash and layer mash are the major types of poultry feed available for sales in the study area.

Wearing of face mask, Avoided large gatherings / long queue and Washed hands with water and soap were the major COVID-19 preventive measures adopted among the respondents. poultry feed marketing before COVID-19 pandemic was profitable with the gross margin of ₦205, 311 while poultry feed marketing during COVID-19 pandemic was profitable with the gross margin of (₦1,374,420). It also concluded that increase in the prices of transportation was a negative effect of COVID-19 pandemic on feed marketing. The results of the hypothesis revealed that socio economic characteristics of the respondents had effect on profitability of poultry feed marketing during COVID-19 in the study area and profit during COVID-19 (0.000) and before COVID-19 (0.000) were significantly different from each other.

4.2 Recommendations

1. Government should roll out palliative to the transporters by giving them grant to cushion the effect of COVID-19 on them as this may reduce the cost of transportation
2. Feed producers should write the government agency in charge of feed raw materials in subsidizing the cost of feed ingredient which will reduce their cost of production and sell at cheaper price for the feed marketers as this will increase the marketers profit
3. Feed marketers association should give their members loan with little or no interest to support their feed marketing business which will drastically reduce their level of poverty
4. Since most of the marketers have access to extension services, extension agent should frequently visit the feed marketers on guideline to prevent themselves from covid-19 and future pandemic and also sensitize them how to manage their business to attract more income.

REFERENCES

Abdullah, R. B., Wan Embong W. K. and Soh, H. H. (2011). *Biotechnology in animal production in developing countries*. Accessed 2022

- Achoja, F.O. Ofuoku, A.U. and Okoh, R.N. (2006). Linkages between socio-economic variables and efficient marketing of Poultry feeds in Delta State, Nigeria: Implication for Extension Services, *World Poultry Sci.* 62(4).
- Adhikari, S. P., Meng, S., Wu, Y. J., Mao, Y. P., Ye, R. X., Wang, Q. Z. and Raat, H. (2020). Effect of COVID-19 on poultry production in south east agro-ecological zone of Nigeria. Epidemiology, causes, clinical manifestation and diagnosis, prevention and control of coronavirus disease (COVID-19) during the early outbreak period: A scoping review. *Infectious Diseases of Poverty*, 9 (1), 1 - 1 2 .
- Ali, M.D. (2011). *Nigeria's poultry market*. Can it come Back? Foreign Agricultural service's office of Agricultural Affairs, Lagos, Nigeria
- Ayodamola, O. (2009). Poultry farmers seek better funding. <http://t.co/yGuikucD>.
- Munyori, J. W., Ofunya, F. A. and Ithinji, G. K. (2014). Factors affecting the size of animal feed manufacturing firms in Nyeri and Kiambu Counties. *European Journal of Business and Social Sciences*, 3(3):249-264.
- NCDCa (Nigeria Centre for Disease Control) (2021). Covid 19 . NCDC. gov. ng .
- NCDCa (Nigeria Centre for Disease Control), (2020). First Case of Corona Virus Disease Confirmed in Nigeria. NCDC, Abuja, Nigeria. Downloaded on March 30th 2020 from <https://ncdc.gov.ng/news/227/first-case-of-corona-virus-disease-confirmed-in-Nigeria>.